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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/830,153 | 04/22/2004 | Takuro Sekiya | 2271/67583-A | 8131 |
| 23432 | 7590 | 10/24/2005 | | |
| COOPER & DUNHAM, LLP 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036 | | | EXAMINER HUFFMAN, JULIAN D | |
| | | | ART UNIT 2853 | PAPER NUMBER |

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EK

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/830,153 | Applicant(s) SEKIYA, TAKURO | |
| | Examiner Julian D. Huffman | Art Unit 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14, 15, 17, 18, 20, 21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 and 25 is/are allowed.
- 6) ☒ Claim(s) 12, 14, 15, 17, 21 and 23 is/are rejected.
- 7) ☒ Claim(s) 18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/6/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 September 2005 has been entered.

Claim Objections

2. Claims 18 and 20 are objected to because of the following informalities:

In the last line of claims 18 and 20, the language "said heating unit's surface" should be changed to "said rear heating unit's surface" to provide proper antecedent basis. For purposes of examination, the limitation "wherein said heating unit's surface contacts the recording medium" is interpreted as referring to the rear heating unit, since it has been stated in lines 4-5 that the heating unit heats the medium *without* contacting the printed surface.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 14, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy et al. (U.S. 6,428,160 B1) in view of Uchida et al. (U.S. 5,136,307).

Roy et al. discloses:

With regards to claims 12 and 14:

an ink-jet recording device comprising:

a head unit (fig. 4, element 60) having a plurality of multi-nozzle recording heads (64, 66, 68, 70), each having nozzles (column 1, lines 52-54), through which ink is fired onto a recording medium;

a recording medium heating unit (74) for heating a printed surface of a recording medium without contacting the printed surface of the recording medium (column 6, lines 26-30 and column 7, lines 4-5), and said heating unit extending along a direction along which the nozzles of said recording heads are arranged, and said heating unit having a heating range, the width of which is wider than the width of a printing range of the recording medium (fig. 4, 74 and 72 are wider than the printheads and also the media on both sides);

wherein said head unit and said plurality of multi-nozzle recording heads have a long dimension so as to cover the printing range of the recording medium (column 6, lines 57-61).

With regards to claims 15 and 17, a rear heating unit (72) provided on the rear side of the recording medium (heating unit 72 is located to the rear side of the recording medium, which is the leftmost side shown in fig. 4, or the side with the printed image could be considered the rear side), having a heating range extending along the direction along which the nozzles of said recording means are arranged, the width of which is wider than the width of printing range of the recording medium (fig. 4).

Roy et al. do not disclose the recording medium conveyed by a conveyance unit to a position at which the nozzle surface of the recording head faces the recording medium.

Uchida discloses a recording medium conveying device feeding a recording medium from a stack of sheets to a recording device (fig. 1, elements 415 and 416).

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the recording medium feeding device of Uchida into the invention of Roy et al. for the purpose of providing the recording medium to the recording device without requiring operator intervention.

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5. Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy et al. in view of Uchida et al. and further in view of Matsumoto et al. (U.S. 6,523,948).

Roy et al. as modified discloses that various types of heating devices may be used (column 7, lines 4-5 and column 6, lines 26-30).

Roy et al. as modified do not disclose a light source and optical system condensing light emitted by the light source.

Matsumoto et al. discloses an optical LED heater including an optical system condensing light emitted by the optical heater (fig. 18, element 146, column 14, lines 10-34).

It would have been obvious to one having ordinary skill in the art at the time of the invention to replace the heater element in the heater of Roy et al. as modified with the optical heater of Matsumoto et al. for the purpose of efficiently drying the ink (column 14, line 20).

Response to Arguments

6. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Claims 24 and 25 are allowed.

Claims 18 and 20 are objected to but would be allowable if rewritten to overcome the objection.

The primary reason for the indication of allowability of claims 24 and 25 is the inclusion of the limitations of an ink-jet recording device comprising:

a recording medium heating unit for heating a printed surface of a recording medium without contacting the printed surface, said heating unit having a heating range, a width of which is wider than the width of a printing range of the recording medium and a rear heating unit provided on the rear side of the recording medium, having a heating range, the width of which is wider than the width of the printing range of the recording medium, wherein said heating unit heats the recording medium through a conveyance unit which conveys the recording medium to a position at which the nozzle surface of the recording head faces the recording medium. It is these limitations found in the claims, as they are claimed in the combination of, which have not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Julian D. Huffman
19 October 2005